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AMERICAN CHIROPRACTIC ASSOCIATION
COUNCIL ON NUTRITION

JUL 26 2004

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Our mission is to encourage and promote a more advanced knowledge and use of nutrition for the maintenance of health and the prevention of disease.

for Council on Nutrition

23 July 23, 2004

Food Guide Pyramid Reassessment Team
USDA Center for Nutrition Policy and Promotion
3101 Park Center Drive, Room 1034
Alexandria, VA 22302

Several years ago, I chaired a committee to create an alternative to the USDA Food Pyramid – we called it the Building Blocks for Healthy Eating.

Please consider our version as you re-think the food pyramid.

I am including our chart with my article with references

I would appreciate feedback on the Building Blocks for Healthy Eating. Or if you would like to discuss it please contact me.

Sincerely yours,

William J. Rice, DC, DACBN, CCN, FACCN

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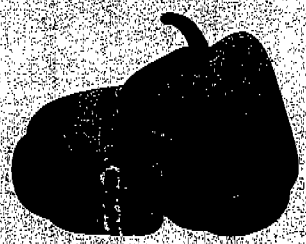
Building Blocks for Healthy Eating

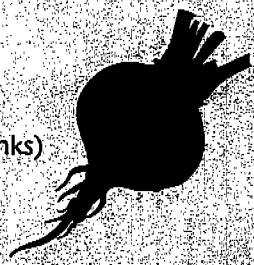
Rice for a Nutrition Council

This chart provides general recommendations for healthy eating.
Please consult your health care practitioner for individual nutritional advice.
Remember we are biochemically unique – everyone is different.



Purified Water

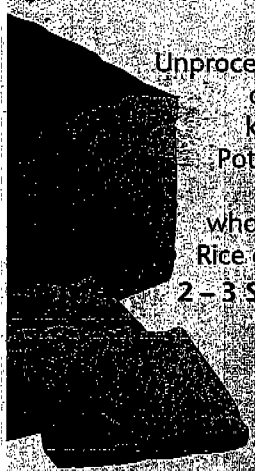
Drink purified water every day (not coffee, tea or soft drinks)
6 – 8 (8 oz) Glasses Daily



Complex Carbohydrates From Vegetables & Beans

Vegetables, tofu, beans & legumes – fresh or frozen; vegetable juices
4 – 6 Servings Daily

Complex Carbohydrates From Starches

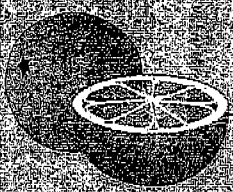


Bread, Cereals & Baked Goods
Unprocessed whole grains – Whole wheat, barley, oats, brown rice, rye, corn, millet, kasha, spelt, amaranth, kamut, etc.
Potatoes with skin, whole grain breads, whole grain breakfast cereals, whole grain pasta, whole grain crackers, Rice cakes, whole grain pretzels, popcorn
2 – 3 Servings Daily – Balanced with Protein

Protein

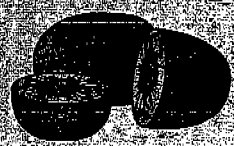
Tofu, beans & legumes, nuts, seeds, eggs, fish, wild game, free-range poultry, beef, pork and lamb
2 – 3 Servings Daily

Milk-skim or 1%, yogurt, kefir, buttermilk, low-fat cheese
If approved by your health care practitioner
1 – 2 Servings Daily



Fruits

Fresh, frozen, dried or juice
1 – 3 Servings Daily



Fats

Avocado, olives, pressed oils (olive, safflower, flax), butter, mayonnaise, salad dressings, nuts, seeds (*avoid* saturated fats, margarine, hydrogenated & partially hydrogenated oils and trans-fatty acids)
1 – 2 Servings Daily

Simple Carbohydrates

Sugars, white flour, sweets, cookies, cakes and processed foods
Not recommended – minimal intake advised

Proper food preparation is important to conserve nutrients

Any foods including whole wheat, corn, nuts, eggs & dairy products (although natural) may present allergy problems to some people.
Avoid any known allergy foods.

All foods should be as natural and chemical-free as possible

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Back To Our Ancestor's Diet- A Healthy Move

Ken Edwards, DC, DACBN, CCN
William J. Rice, DC, DACBN, CCN, FACCN

Abstract: The first building blocks of life may have originated when the radiation from the sun on the primordial oceans and beaches oxidized compounds to produce pantetheine, a form of the B-vitamin pantothenic acid. Pantetheine is the precursor of coenzyme A, a molecule that links amino acids together to form proteins-and makes possible the creation of deoxyribonucleic acid (DNA) and ribonucleic acid (RNA) that are the building blocks of the genes that make life possible on this planet.

Modern diets are out of sync with our genetic requirements. The less we eat like our ancestors, the more susceptible we are to coronary heart disease, cancer, diabetes, and many other "diseases of civilization".

100,000 generations of people were hunter-gatherers, 500 generations have depended on agriculture, 10 generations have lived since the start of the industrial age, and only two generations have grown up with highly processed fast foods.

Our diet today is substantially different from our evolutionary diet. In other words, our diet today fails to provide the biochemical and molecular requirements of H. sapiens.

It would appear that the guidelines put forth in the Building Blocks for Healthy Eating would certainly bring us closer to the Paleolithic diet which our genes are dictating is of greatest benefit than those put forth by the 1992 US Department of Agriculture Food Pyramid[28] as it currently stands. Perhaps, as a society, we would be better served to adopt the guidelines of the Building Blocks for Healthy Eating in place of those put forth by the USDA Food Pyramid.

Key Words:
Nutrition, Paleolithic, diet, dietary guidelines, USDA Food Pyramid, Building Blocks for Healthy Eating.

Today's newspaper carried the front-page article that scientists have just completed mapping out the human genome. This is a marvelous finale to the twentieth century and the old millenium. We are on the brink of new discoveries in virtually all fields of human knowledge. It is an exciting time to be alive. It is also a time of retrospect, of looking back to see where we came from and just how the journey went.

Perhaps it is time to look back to the beginning - the very beginning, to see where we came from, where we are headed, and if our current path is the one that we truly desire. [1]

It has been postulated, by Stanley L Miller, Ph.D. of the University of California, San Diego, that the first building blocks of life may have originated when the radiation from the sun on the primordial oceans and beaches oxidized compounds to produce pantetheine, a form of the B-vitamin pantothenic acid.[2]

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Pantetheine is the precursor of coenzyme A, a molecule that links amino acids together to form proteins-and makes possible the creation of deoxyribonucleic acid (DNA) and ribonucleic acid (RNA) that are the building blocks of the genes that make life possible on this planet. Many other molecules formed over the next several billion years and helped to construct the countless forms of life we see today. Due to their common ancestry, all of these life forms became dependent on essentially the same group of nutrients. [1]

According to S. Boyd Eaton, M.D., one of the foremost authorities on paleolithic (prehistoric) diets, modern diets are out of sync with our genetic requirements. He makes the point that the less you eat like your ancestors, the more susceptible you'll be to coronary heart disease, cancer, diabetes, and many other "diseases of civilization." [3]

Also, according to Eaton, 99 percent of our genetic heritage dates from before our biological ancestors evolved into Homo sapiens about 40,000 years ago, and 99.99 percent of our genes were formed before the development of agriculture about 10,000 years ago. [1]

Before the advent of agriculture, all people were hunter-gatherers: they gathered various fruits and vegetables to eat and they hunted animals for their meat. Of necessity, the ratio of meat and fruits/vegetables varied with geographic location, climate and season. Until these hunter-gatherers began to cultivate grains and livestock, they rarely drank milk beyond infancy or ate grains. [1]

With the spread of agriculture, the nomadic groups became more stable larger societies in order to tend the fields. Culture and knowledge became more commonplace and flourished. People also began to consume large amounts of grains, milk and domesticated meat. They also became more sedentary. [1]

With the advent of the industrial revolution, even more dramatic changes were forthcoming. Beginning around 1900, whole grains were routinely refined, removing much of their nutrition, and refined sugar started to become commonplace. In 1939, nutritionist Jean Bogert noted, "The machine age has had the effect of forcing upon the peoples of the industrial nations (especially the United States) the most gigantic human feeding experiment ever attempted." [4] Over the past 40 years, the average diet has changed even more dramatically than Bogert could have imagined, due primarily to the growth of fast-food restaurants.

According to Eaton, the many dietary changes over the past 10,000 years have outpaced our ability to genetically adapt to them. "That the vast majority of our genes are ancient in origin means that nearly all of our biochemistry and physiology are fine-tuned to conditions of life that existed before 10,000 years ago," he says. [5]

To put this into another perspective, 100,000 generations of people were hunter-gatherers, 500 generations have depended on agriculture, 10 generations have lived since the start of the industrial age, and only two generations have grown up with highly processed fast foods. "The problem is that our genes don't know it," Eaton points out. "They are programming us today in much the same way they have been programming humans for at least 40,000 years. Genetically, our bodies now are virtually the same as they were then." [6]

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By working with anthropologists, Eaton has created what many experts consider a clear picture of our prehistoric diet and lifestyle.

Today's plethora of diets - from fast-food burgers to various concepts of balanced diets and food groups - bear little resemblance, superficially or in actual nutritional constituents, to the diet H. sapiens and its ancestors consumed over millions of years. For example, vitamin intake is lower today and the dietary fatty acid profile is substantially different from our evolutionary diet. In other words, our diet today fails to provide the biochemical and molecular requirements of H. sapiens. [1]

We might do well to examine how the dietary constituents, past and present, stack up. We will compare and contrast the recommendations made in the 1992 U.S. Department of Agriculture Food Pyramid (DAFP) and those of the Building Blocks for Healthy Eating (BBHE), a document devised by members of the American Chircpractic Association Council on Nutrition.

To better understand how this document came into being, a brief history of its development might be in order.

At the 1997 annual meeting of the American Chiropractic Association Council on Nutrition (ACA-CON), President Dr. Jerrold Simon brought up a motion on a position that was presented at the ACA meeting that year. The ACA asked if the Council on Nutrition (CON) would endorse the standard 1992 USDA Food Pyramid. We had a rather lengthy, heated discussion on the topic, but the overwhelming feeling was "absolutely not." It was suggested that we respond with statement that we are investigating it ourselves. At that, Dr. Simon created a committee from the membership of the CON to formulate a new "pyramid" with Dr. William J. Rice as the chairman.

Over the next year, Dr. Rice communicated via fax and e-mail with the fifteen or so people who volunteered to be on the committee. We used the pyramid as a guide, but quickly decided what the flaws were in the pyramid design and concept. We researched the recommendations from many sources. This was not a simple task as there are a number of our fellow practitioners who are vehemently opposed to certain foods in the diet, such as dairy products. We tempered all radical ideas with the concept that this program was for everyone and needed to reflect moderation.

Therefore, dairy products are included, but we recommend organic, natural products free of pesticides, herbicides and hormones. In addition, we recognize that a great number of people are either allergic and/or sensitive to dairy products or do not have the necessary enzyme (lactase) to digest dairy products. So we added a caveat about that. We also made it clear that this document was intended as a generalized chart and that people should check with their health care practitioner for specific recommendations.

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One of the most important differences between the BBHE and the 1992 DAFP is that the BBHE chart lists the most important foods first on top - where they belong - not at the base of some arbitrary geometric shape. We also considered water to be the most important nutrient as our bodies are almost 70% water. [13]

Another important difference is that our group was not influenced by any outside organization or industry. We were only concerned with what foods are best for the general public. We were not concerned with offending the cattle or dairy industry, etc.

One major criticism of our chart was the lack serving sizes. That was done intentionally to give the practitioner the prerogative of making individual plans for their patients. There were adequate references for drinking 6-8 glasses of water daily, so that remained. Another problem we encountered was where to put certain foods such as beans and legumes that are vegetables, but also quite high in protein. We compromised by including them in both categories.

The BBHE is a model for a balanced diet. It moved away from the very high carbohydrate diets, yet is careful to not be classified as a high protein diet. It is much closer to the Zone diet (40-30-30) with an emphasis away from the fats and processed foods.[26] This dietary approach will help to keep the blood glucose and insulin levels balanced, and is therefore, anti-inflammatory in nature.

There are many foods listed on the BBHE chart that may be strange to many people. The idea is to give people a wide variety of foods to choose from which will help reduce the risk of developing food allergies and provides a variety of nutrients unavailable in monotonous diet. Whole grains such as kamut, millet, kasha, spelt, and amaranth for example, are all readily available in every health food store and many supermarkets across the country.

Our goal is to replace the 1992 Department of Agriculture Food Pyramid with the Building Blocks for Healthy Eating in every nutritional-oriented source in the world. We would like to distribute these charts and posters to the schools and practitioners and make them aware of the means of healthier eating. This chart will be available in 8 ½ x 11-inch pads of 50 and 16 x 20-inch posters through the ACA Council on Nutrition.

In the interest of clarity, a comparison chart is provided below.

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A Comparison Chart of the Building Blocks for Healthy Eating and The 1992 U.S Dept. of Agriculture Food Pyramid.

NUTRIENT	BUILDING BLOCKS	FOOD PYRAMID
Water, Purified	**6-8 (8 oz.) glasses daily**	**No recommendations.**
Complex Carbohydrates (from vegetables and beans)	Vegetables, tofu, beans & legumes-fresh or frozen; vegetable juices. **4-6 servings daily.**	**No specific recommendations.** Included in complex carbohydrates from starches.
Complex Carbohydrates (from starches)	Bread, cereals & baked goods. Unprocessed whole grains- Whole wheat, barley, oats, brown rice, rye, corn, millet, kasha, spelt, amaranth, kamut, etc. Potatoes with skins, whole grain breads, whole grain breakfast cereals, whole grain pasta, whole grain crackers. Rice cakes, whole grain pretzels, popcorn. **2-3 servings daily-Balanced with Protein.**	Breads, cereals, rice and pasta. Includes complex carbohydrates from starch sources. **6-11 servings daily.**
Protein	Fish, wild game, poultry, free-range beef and lamb, nuts tofu seeds, eggs, beans & legumes **2-3 servings daily.** Milk - skim or 1%, yogurt, kefir, buttermilk, low-fat cheese. (If approved by your health care practitioner. **1-2 servings daily**	Meat, poultry, fish, dry beans, eggs & nuts. **2-3 servings daily.** Milk yogurt, and cheese **2-3 servings daily.**
Fruits	Fresh, frozen, dried or juice **1-3 servings daily.**	Fresh fruits, fruit juices, and frozen, canned, or dried fruit. **2-4 servings daily.**
Vegetables	Included with complex carbohydrates (from vegetables and beans)	Starchy vegetables, (potatoes, corn, peas) Legumes (navy, pinto, and kidney beans, chickpeas), other vegetables(lettuce, potatoes. onions, green beans.) **3-5 servings daily.**
Fats	Avocados, olives, cold-pressed oils (safflower, olive, flax), butter mayonnaise, salad dressings, nuts seeds (avoid saturated fats, margarine, hydrogenated & partially hydrogenated oils and trans-fatty acids.) **1-2 servings daily.**	It is recommended that Americans limit fat in their diets to 30 percent of the calories. **Use sparingly.**
Simple carbohydrates	Sugars, white flour, sweets, cookies, cakes and processed foods **Not recommended**	**Use sparingly**

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When we originally began writing this article, we had in mind to compare the DAFP model of good nutrition to the BBHE. In the process of trying to do this, we found that it was a little like trying to compare apples and oranges-both fruit but very different in their structure and value.

Water: For one thing, the food pyramid model makes no mention at all of water. Since the human body is comprised of 57 to 75 percent water, these authors found this disconcerting. In a newborn infant, the percentage may approach 75 percent, undergoing a steady decline from birth to old age. Also obesity decreases the percentage of water in the body to as low as 45 percent. [13]

Water is the universal solvent used for virtually all biochemical processes in the body. Its importance cannot be overstated.[27] To be adequate to perform these functions, the water must be free of organisms and chemicals that cause disease. The tap water that many of us drink often does not fulfill this requirement. Too often, tap water still bears chemicals (such as trihalomethanes, a by-product of chlorination) or parasites that produce spores that are impervious to chlorination (such as cryptosporidium). [14,15,16]

There are many sources of pure water available. Bottled water is available in the supermarket or can be ordered delivered by a company specializing in bottled water. While bottled water obtained from a reputable source is one of the most common options, there are inconveniences associated with its use. A 5-gallon bottle of water is cumbersome to change when empty and necessitates the purchase or rental of a dispenser.

Another method involves point-of-use filtration. With this system, an activated carbon filter is connected to the water supply just before the sink faucet. The primary advantages to this system is convenience, cost, and an assurance that the water being consumed is not in danger of being contaminated by the plumbing between the municipal water treatment facility and your faucet. There are several companies producing excellent water filtration systems. Look for the NSF certification to determine what contaminates the filter is capable of eliminating.

The recommendations for the amount of pure water that should be consumed varies with the individual making the recommendation, but the consensus of opinion seems to be that the American public does not drink enough water, considering water's importance to the body. Many authorities recommend drinking 1 oz. of purified water per kilogram (about 2 pounds) of body weight. [27] As mentioned earlier, that amount increases with advancing age and/or obesity.

Carbohydrates. Early humans obtained about half of their calories from carbohydrates, but these carbohydrates were rarely grains. Most carbohydrates came from vegetables and fruit.

"Current carbohydrates often takes the form of sugars and sweeteners...Products of this sort, together with items made from highly refined grain flours constitute empty calories...devoid of accompanying essential amino and fatty acids, vitamins, minerals and possibly phytochemicals," says Eaton.[7]

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Fruits, vegetables, and fiber. Over the course of a year, gatherer-hunters typically consumed more than 100 different species of fruits and vegetables. These foods provided more than 100 grams of fiber daily, promoting regular bowel movements. Says Eaton: "The fiber in preagricultural diets came almost exclusively from fruits, roots, legumes, nuts and other naturally occurring noncereal plant sources, so it was less associated with phytic acid than is fiber from cereal grains." (Phytic acid interferes with mineral absorption.)

Today, fewer than 9 percent of Americans eat the recommended five daily servings of fruits and vegetables. According to Gladys Block, Ph.D., a nutritional epidemiologist at the University of California, Berkeley. Even people who regularly do eat fruits and vegetables generally limit themselves to a handful of different foods. [8]

Protein and Fat. Early humans consumed about 30 percent protein, although it varied with the season and geographic location. Much of this protein came from what people now call "game meat" - undomesticated animals, such as deer and bison. Based on contemporary studies of hunter-gatherer societies, early humans consumed relatively large amounts of cholesterol (480 mg daily), but their blood cholesterol levels were much lower than those of the average American (about 125 mg per deciliter of blood). There are a couple of reasons for this.

1. Domestication of animals increases their saturated fat levels and alters the ratio of omega-6 to omega-3 fatty acids. Most Americans consume an 11:1 ratio of omega-6 to omega-3 fatty acids. But, based on evolutionary and anthropological data, a more ideal ratio would be in the range of 1:1 to 4:1. In other words, our ancestors consumed a higher percentage of omega-3 fatty acids - and we probably should too.

2. Gathering and hunting required considerable physical effort, which means early humans exercised a lot, which would have burned fat and lowered cholesterol levels. "Their nomadic foraging lifestyle required vigorous physical exertion, and skeletal remains indicate that they were typically more muscular than we are today," says Eaton. "Life during the agricultural period was also strenuous, but industrialization has progressively reduced obligatory physical exertion." [9]

Vitamins and minerals. Both meats derived from wild game and wild plant foods contain higher amounts of vitamins and minerals relative to their protein and carbohydrates. Eaton observed: "The fruits, nuts, legumes, roots and other non-cereals that provided 65-70% of typical gatherer-hunter subsistence were generally consumed within hours of being gathered, with little or no processing and often uncooked...it seems inescapable that pre-agrarian humans would generally have had an intake of most vitamins and minerals that exceeded currently recommended dietary allowances." [10]

Especially dramatic is the difference in consumption of sodium and potassium - electrolyte minerals necessary for normal heart function.

According to Eaton, the typical adult American consumes about 4,000 mg of sodium daily, but less than 10 percent of this amount occurs naturally in food. The rest is added during processing, cooking, or seasoning at the table.

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Potassium consumption is lower, about 3,000 mg daily. In contrast, early humans consumed only an estimated 600 mg of sodium, but 7,000 mg of potassium daily. People, says Eaton, are the "only free-living terrestrial mammals whose electrolyte intake exhibits this relationship." [10] That reversed ratio could be one reason why people are so prone to hypertension and other heart ailments.

Dietary vitamin and mineral levels in the past were 1.5 to 5 times higher than they are today. There is evolutionary evidence that large doses of vitamin C may be needed for optimal health. The reason has less to do with diet than it does with an accident of evolution. There was a time in our history, according to biochemist Irwin Stone, Ph.D., some 25 to 70 million years ago, that a catastrophic event of an unknown nature occurred that led to a mutation that prevented the descendants of our species from manufacturing their own Vitamin C. Nearly all other species, from insects to mammals, continue to produce their own Vitamin C. Scientists generally accept his theory regarding how our ancestors lost their ability to produce vitamin C. His other theory is more controversial. He contended that people never lost the need for large amounts of vitamin C, although they lost the ability to manufacture it. Based on animal data, he estimated that people might require 1.8 to 13 grams of vitamin C daily. [12]

According to a new theory, losing the ability to produce vitamin C may have actually accelerated the evolution of primates into modern human beings. Vitamin C is an important antioxidant, and losing the ability to produce it would have allowed the formation of large number of free radicals. These excessive free radicals would have caused large numbers of DNA mutations, contributing to the aging process and diseases. Some of these mutations would also have been inherited by offspring, creating many biological variations - one of which eventually became H. sapiens.

Other significant departures of the BBHE from the 1992 DAFP are the recommended sources for complex carbohydrates. The 1992 DAFP recommends primarily grains and grain products (starches) as the major source for these, while the BBHE recommends that the primary source of complex carbohydrates be found in vegetables, tofu, beans, legumes and vegetable juices. The BBHE also recommends complex carbohydrates from starches, just less (2-3 servings of whole grain products) than from vegetables and beans (4-6 servings daily)

Another major departure from the 1992 DAFP is in the area of protein sources. While the food pyramid recommends 2-3 servings daily of lean beef, pork, veal, lamb, chicken and turkey, the BBHE recommends the same 2-3 servings of proteins from meat sources, but from somewhat different sources (fish, wild game poultry, free-range beef and lamb, nuts, seeds, eggs, tofu, beans and legumes.) It has been well documented that cold-water fish is very beneficial in restoring a much more desirable Omega 3 to Omega 6 ratio. [17,18,19]

The 1992 DAFP recommends 2-3 servings daily of milk, yogurt and cheese, while the BBHE recommends only 1-2 servings daily of skim or 1% milk, yogurt, kefir, buttermilk, or low-fat cheese.

The final point of departure between the two systems in question has to do with fats. While the BBHE calls for 1-2 daily servings of fat (from avocados, olives, cold-pressed oils, butter, mayonnaise, salad dressings, nuts and seeds), the 1992 DAFP simply advises to use sources of fats and oils sparingly. There is, however, increasing

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evidence that some of the mono-saturated oils (such as olive oil) and some of the higher fat vegetables may actually be beneficial to our health.[20-25]

Upon close comparison, it would appear that the guidelines put forth in the BBHE would certainly bring us closer to the Paleolithic diet which our genes are dictating is of greatest benefit than those put forth by the 1992 DAFP as it currently stands. Perhaps, as a society, we would be better served to adopt the guidelines of the Building Blocks for Healthy Eating in place of those put forth by the 1992 USDA Food Pyramid.

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Comments on the Updated Food Pyramid

SR Brubaker

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Alexandria Virginia 22303

JUL 26 2004

19 July 2004

Thank you for accepting comments on the food pyramid. Though I am not formally trained in the area, I am a scientist by training and my opinions are based on personal experience and experimentation and on twenty years of informal research in nutrition. I thank you kindly for hearing me out.

Motivation

The food pyramid is designed to inform good nutritonal choices; to prod, inspire, motivate people to eat well. If one looks for books about it at Amazon.com, a large portion are for children in early grammar school. The food pyramid is what our children use to learn to eat well. It is at this age that we are first teachable about nutrition. It is at this age we begin to learn our good and bad eating habits. It is soon after that our eating habits have solidified and set for life. So teaching the right things matters. The food pyramid matters because it is the official government-sanctioned model of perfect nutrition. All nutrition-related advice is judged in light of the food pyramid's recommenations. If advice is at variance with the food pyramid recommendations it is assumed to be 'wrong until proven right.' And if the food pyramid is wrong, not only will our children eat the wrong things and will grow up with the same nutritionally - driven diseases that baby boomers across the country suffer from today, but also they will be innoculated to resist any good ideas that come along. And good ideas to fix the problem will be trodden into the mud because they 'don't conform to the food pyramid.'

The food pyramid does not exist to perpetuate existing patterns of commerce nor to bolster antiquated ideas and unhealthy eating patterns. We need a standard for good, healthy eating. One that is idealistic but attainable. One that spurs us on to higher levels of health. One that is adaptable to people who make choices to live as vegetarians and one that works for people who want to eat a lot of meat. We need to depend on it to be good under a wide range of eating lifestyles. If it encourages sustainable agricultural methods or if good recommendations improve the way commercial enterprises generate wealth in this country, so much the better.

Under no circumstances should entrenched commercial interests - whether from the agriculture, food, or trade sector - cause the USDA to recommend anything less than the best practices as judged with common sense in light current scientific knowledge. Under no circumstance should these interests be allowed to hinder the USDA in their clear and direct communication of good nutrition practices to Americans who desparately need them.

Judging by the epidemic levels of obesity and type II diabetes that have occurred since its introduction, the food pyramid has failed. This is almost regardless of whether its message is on target or not. If it is on target, then it has failed miserably in delivering it. But more and more health professionals are coming to the conlusion that it is failing because it is badly conceived; following its advice puts one at higher risk of gaining unwanted weight and suffereing from the effects of obesity, diabetes, and heart disease.

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Now the pyramiud is being revamped. According Dr Willett, chairman of the department of nutrition in Harvard's school of public health, it is primarily the high carbohydrate recommendations of the food pyramid that have led us astray. Based on information gleaned from one of the largest studies of health ever done in America he asserts the data clearly contradict the 'low fat is good' message and that " the exclusive focus on adverse effects of fat may have contributed to the obesity epidemic"" observed since the release of the first food pyramid[1]

The article makes it clear that the idea that excessive carbohydrate consumption was the primary dietary cause of obesity has been an accepted fact in western culture from the time of Brillat-Savarin's *Physiology of Taste,* published in 1825 until the food pyramid was published in the 1980's. It makes it clear that study after study has failed to link fat consumption with any health problem including obesity and heart disease; but that there are multiple paths by which carbohydrate can cause health problems and multiple studies demonstrating those. It makes it clear that the design of the food pyramid was a leap of faith based on intuition and, perhaps, prejudice. And that most of the real science done since its introduction suggests that switching American diets from protien and fat to carbohydrates has played a major role in causing people to overeat and become obese. In short, all of the science done before and after the introduction of the food pyramid contraindicates its use.

Consider our favorite food to hate, lard. If examined in light of what we do know about food and cardiovascular health, it may be a hero instead of a villain. It raises cholesterol levels. But it raises HDL levels faster than LDL levels. And this, according to the model that we use to predict heart disease, lowers the risk ofheart attack. 'If one does the math, one can come to the conclusion that eating lard out of a can will decrease your chances of a heart attack.' [2] Not so with carbohydrates. High carbohydrate use has led to higher hunger levels, higher caloric consumption, and spiraling levels of obesity. Obesity incites inflammation which is a major player in heart disease. This is the first proven ling between carbs and heart disease. Furthermore, carbohydrate consumption raises triglyceride levels. And triglycerides can be just as dangerous in causing heart disease as is bad cholesterol. The upshot is that switching people from lard to bread has had at minimum two independent effects leading to heart disease. At least one to diabetes. The list goes on. In four words: It's a bad trade.

The result of making this trade is that Americans are falling prey to diabetes and heart disease in ever - spiraling numbers. And ever more health authorities blame it, in part, on the way the food pyramid has encouraged all of us to eat more pasta and bread. I know I changed my eating habits to incorporate more carbohydrates in the early 1980's and I have gained an unmentionable amount of weight since. I am now morbidly obese and I am trying to learn new eating patterns to replace the ones learned during my youth when the carbohydrate revolution burned its path through American nutrition. Not all of my own weight gain is due to the focus on carbs, but I am certain that this did play a major role. It may be too late for me. I may soon start having all the health problems associated with being overweight. This might happen before I have relearned how to eat sanely. But the food pyramid has, for me, been the single worst piece of nutritional advice I have ever heeded.

Let's knock out that part of the pyramid that is making us fat and unhealthy. Let's teach our children to eat sanely. What is it; what should we teach? The big deal is those four servings of enriched grains. Big mistake.First idea - distribute these calories among beans, root vegetables and low carb veggies. Maybe it's prudent to follow the advice of Dr Willett and shift some portion of this to meats, dairy, and nuts. Americans get the idea that lean meat is better for them than fatty meat. (Even if it is not true.) And they can cope with the idea of eating more chicken, fish, and well trimmed beef and less bread and pasta. They can also understand that eating a piece of cheese or taking a handful of almonds is a good thing. Nobody gets food cravings from almonds. But Americans probably never will get 'eat whole foods,' or 'eat wheat germ.' Certainly they will not without additional information. We'll offer some ideas later.

[1] What if it's All Been a Big Fat Lie? Gary Taubes, New York Times on the Web , July 7, 2002.
[2] ibid.

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The first people to adopt the new ideas - other than our current mass of second-graders - will be those who have been on the sugar roller-coaster caused by eating excess simple carbohydrates in bread and pasta. And they will be made happy. Some will actually beat depression for the first time in years.Others will fit into clothes they have not fitted into in years. All will decrease their likelihood of suffering from diabetes or heart disease. And it will be because they took up eating cheese or almonds instead of toast.

Specific Failures of the Food Pyramid

To fix the food pyramid we suggest looking at its conceptual failures and at its communication failures. Both of these lead to dysfunction.

The major failures of the existing food pyramid are that

A. It treats all fat as bad:
It fails to distinguish between saturated and unsaturated fats We know, for instance, that polyunsaturated fats and unsaturated fats can actually reduce levels of LDL, or bad cholesterol. We know that many foods that contain unsaturated fats such as sesame, almond, and so on, are superlative sources of calcium and vitamin E, two of the nutrients that fall short of target in the proposed new standard. These nutreints, coincidentally are also linked with cardiovascular health.

It treats all foods that contain appreciable levels of fat as bad regardless of the nutrient density of crucial nutrients. This has the result of steering people toward carbohydrates; often toward cakes, cookies and, ironically, from nuts to potato and tortilla chips! And the reason people eat these fat-laden foods is because whereas carbohydrates can make you ever more hungry, fats almost always aid in satiety. Because of this, switching people from a low fat diet to a higher fat diet wouldd improve general health levels, regardless of what kind of fat is eaten. To put it another way. It is possible that the food pyramid has it 180 degrees backwards. It is possible that , when compared to carbohydrates, all fat is good! It is possible that we should be eating a lot more lard. It is almost 100 percent certain that we should be eating much less grain and eating things that stabilize blood sugar levels instead.

B . It treats almost all carbohydrate as equally and uniformly good:
It fails to communicate the fact that the glycemic index of most foods made from milled grains is as high as or higher than that of sugar. Except for people with diabetes, glycemic index is an unknown and unteachable concept. But tens of millions of people are harmed by behavior that is not informed by this idea. The harm of a high glycemic index is that foods in this category cause insulin responses that overshoot, causing hunger and fatigue, which in turn, cause overeating. This leads inevitably to obesity and then insulin resistance. And obesity as it worsens eventually leads to diabetes and heart disease. This conceptual failure is at the heart of the failure of the food pyramid; unless it is addressed ruthlessly and clear-mindedly and unless a good alternative is found, and unless it is communicated clearly, the food pyramid will lead a whole new generation into the pit of obesity and onward to the heart clinic. The cost to society of being wrong or not taking action could be hundreds of billions of dollars.

People should have no reason to think about glycemic index. They should not have to carry around a chart showing the glycemic index of every food from the plant kingdom. They would not have to do this if the food pyramid drew appropriate distinctions between high and low glycemic index foods. Or, more correctly, between high and low insulin response foods. (The insulin response is proportional to the product of the glycemic index and the amount of carbohydrate involved. High

GI with a low carbo load is not worse than Low GI with a monstrous carbo load.) But it fails here completely.

To put it bluntly; that drawing of bread and pasta at the base of the food pyramid may be one of the most lethal 'public service messages' known to Americans. We wonder out loud whether it has killed as many people in its tenure as cigarettes did in the same time period. Or how long it will be before its annual toll is as large.

If people were steered toward foods naturally lower in carbohydrates and/or those that always have more fiber, and/or those that have lower glycemic index, the issue will not be nearly so problematic. Low-starch vegetables and beans have these qualities. It is a matter of considerable surprise that they do not play a significantly more visible role in food pyramid old or new.

It seems completely clear that beans and legumes should have their own category. The intake of beans and legumes ought to be roughly the size of intake of grains. This has a large number of salutatory effects:

1) beans are among the most nutrient dense members of all natural foods
2) beans are high in fiber and have low glycemic index, causing long, low, level glycogen production.
3) Whereas it is tricky to distinguish a whole grain product from one that is not, it is not difficult to distinguish a grain product from a bean product. And bean products tend to be have a lower glycemic index no matter what you do to them.
4) Beans are low in fat and high in protein.
5) In my own personal experience, beans provide a buffer against post-prandial hunger that completely eclipses every other food.
6) Beans contain a substance now extracted and marketed by nurticeutical companies that suppresses appetite.

In short, beans are different from grains. And virtually every one of those differences makes beans superior when measured against our obesity problem.

C. It Treats all meats, beans, dairy, and nuts as being inferior to grains:
This is a result of a failure to distinguish between good and bad fat. Nuts are a rich source of high quality fats as well as a number of minerals and vitamin E. Just about the only other significant sources of vitamin E are wheat bran and eggs of chickens fed supplemental wheat germ. Based on the analysis in TABLE 5 of the food pyramid document, the new pyramid provides just about half the RDA for vitamin E - a vitamin crucial to cardiovascular health. Thus, the food pyramid - without intending to - creates a diet short in vitamin E and provides yet another mechanism to hurt heart health. t The solution is simple. Recommend against the use of degermed flour. Recommend a higher intake of nuts. Recommend a higher intake of eggs. And on a separate front, recommend that more egg-laying hens receive wheat-germ enhanced diets. These are all straightforward, easy things to do and they all will improve what Americans eat and levels of cardiovascular health. Nor is there very much cost associated with doing it - not compared to the benefit.

There is reason to believe, further, that ALL FAT is better than ANY CARBohydrate that leads to insulin- overshoot. That's pretty much any serving of grain larger than two or three small crackers. If this proves true, then the the food pyramid really may be the most devastating single event to strike North America since the Civil War.

It fails to take into account that in many parts of the world where grains make up a major part of the diet, beans have an equal share; for instance throughout India rice is always eaten with dal. Throughout China tofu and other beans are eaten with rice.

It is hard to understand, based on the relative nutrient values of grains and beans why grains should be given such strong preferential treatment. Nor can one understand it based on environmental considerations, since legumes and beans enhance the nitrogen content of soil making it more productive for the growing of grains. It would seem that there is little economic drawback to consuming beans up to the level at which they are in cultivation just about as broadly as grains. And if we use most of our grains to feed animals, we have along way to go to get to that point.

The food pyramid fails to take into consideration that where grains and beans make up the major part part of the diet, sugar, butter, cream, meat, and processed foods are nearly unobtainable. And starvation is rampant. There are powerful societal and socioeconomic forces limiting the consumption of high calorie foods. Furthermore, the level of activity among peoples who eat mostly grains and beans is much higher than it is for Americans who are much more sedentary. A more reasonable point of comarison might bef Malta, which lives on pasta and has the highest incidence of obesity in the world - outside the US.

The pyramid fails to make provisions for the fact that only a tiny fraction of the population can and will distinguish between whole grains and those processed to remove germ and bran, and that the result of steering people toward grains is to cause them to eat more empty starches. This inevitably impoverishes the diet since the empty calories cause sugar level instabilities, insulin resistance, food craving, obesity, and ultimately diabetes and heart disease.

There is growing evidence that substituting protein and fat for carbohydrate will actually help people lower cholesterol and triglyceride levels. It can help level out blood sugar. It can help prevent obesity. And since obesity leads to diabetes via insulin response and heart disease via inflammation, it seems clear that to some extent moving away from grains and toward nuts, beans, dairy, and meats will have a strong positive influence on public health.

D. The artistic depiction of the food pyramid leads one to think that one's diet should be primarily bread and pasta.

Take a quick glance at the food pyramid. Close your eyes. Now name three foods that you remember seeing. I looked at it for a minute or two. I remember bread and pasta. I remember nothing more. The truth is, bread and pasta are almost always made from finely milled enriched white flour. They are stripped of fiber, vitamin E, and a number of other nutrients. They have high glycemic indices, and a host of people with Crohn's disease cannot eat wheat. So visually, the message the food pyramid conveys is that one should eat only a food that has been proven to make large numbers of people very sick via multiple mechanisms.

We have to ask; if one were to set out to design a visual system that would have the broadest, most negative impact possible on the health of Americans as a group what would one do? The first idea is to try to get people to eat more 'empty calories and fatty foods; cake, bacon, candy, and so on. But Americans are smart enough to reject that message. The next best (most destructive) thing is 'eat more pasta'. It sinks in because people are ready to hear it. And it has the same disastrous effect as eating cake.

It is completely unclear how the new food pyramid will address these issues. It seems clear that the method will require a significant amount of rethinking about how to describe what we eat. Down the line it will require a broader effort to communicate the values of foods.

Comments on the Updated Food Pyramid **SR Brubaker**

Recommended Imrovements

Here are some recommendations:

A. Organize foods into slightly different groups; Here is a Straw-Man proposal:

1. Low Starch Vegetables. These vegetables typically have very few calories, and they are typically rich in vitamin A, C, iron, K, and of course, fiber. They are not expensive to cultivate on a cost per nutrient unit. And there is virtually no down side in eating more of them.
2. Beans + Legumes They are high in very complex carbohydrates, protein, fiber, B vitamins and minerals. The starches are very complex and break down slowly compared to those in grains. Furthermore, it is hard to understand the USDA's distinction between beans in the meat group and legumes in the vegetable group.
3. Grains. Grains provide complementary proteins to beans. Grains, if stripped of bran and germ and ground into flour will digest quickly and can cause blood sugar spikes leading to hunger, overeating, obesity, diabetes, and heart disease. Whole, the bran provides fiber that slows absorption; the germ provides a large bounty of vitamins and minerals.
4. Eggs + Dairy. Complete proteins. Also, the dairy provides the bulk of the calcium (nuts pick up the slack) Eggs can be a superior source of vitamin E. Eggs are one of natures best sources of lecithin. There is no evidence that the consumption of eggs leads to heart disease. Adequate levels of calcium consumption can have positive effects on hunger and weight as well as heart health.
5. Nuts. Good fats and oils, high in fiber, protein, vitamin E, minerals. Nut consumption has been linked with improved cardiac health. It's not clear to what extent this is due to vitamin E, the most obvious explanation available.
6. Fruits. High in vitamins A, C, potassium, soluble fiber, sugar. Citrus fruits are superlative sources of vitamin C. Too much fruit will cause insulin over-shoot.
7. Root Vegetables. or High Starch vegetables. High in fiber, vitamin A, sometimes C, and starch. Enough sugar and simple starch to cause one to think twice about eating too much. Intake should be limited. But they can be a superlative source of vitamin A; and therefore, they should be part of the daily or regular diet regimen.
8. Red meat. High in protien, iron, vitamin B12, zinc. High in saturated fat . Red meat has been blamed for heart disease, but no study has been able to establish a link.And it's not for lack of trying.
9. Poultry + Fish High in protein, iron, vitamin B12.. Fish, especially fatty fish, prevents heart disease. And chicken soup is the cure for the common cold! Seriously, if Americans are to get slimmer, they need to substitute at least one serving of grain per day with some meat, fish, or poultry.
10. Good oils. Fight circulatory and coronary diseases by battling inflamation, and lowering cholesterol, help prevent diabetes, depression, and a host of maladies. Eat good fat; lose weight.
11. White Foods: Lard, sugar, white flour cause pretty much every malady known to man that is related to diet, except possibly certain specific food allergies.

It seems likely that people will have a hard time remembering 10 or 11 groups, but these groups really do make sense. And there is no good way around it. There just are this many distinctive groups of foods - each with its assets and liabilities. To argue that there must be fewer groups so they can be remembered is like arguing: "No, there are only eighteen elements" or "There were four apostles," or "nine American Presidents,.. because that's all I can remember!" Let's do the right thing here.

B. Set the following as recommended levels for each of these groups:

1. Low Starch Vegetables - 4 servings per day, minimum
2. Beans and Legumes - 3 servings per day, nominal
3. Whole Grains - 3 servings per day, maximum
4. Eggs and Dairy - 3 servings per day, nominal
5. Nuts - 1-2 servings per day, nominal
6. Fruits - 2-3 servings per day nominal
7. Root Vegetables - 1-2 servings per day, nominal
8. Meats and Fish - 2 servings per day. nominal, red meat 1 , maximum
9. Unsaturated Vegetable Oils - 1 serving per day, nominal
10. White Foods - 2 servings per day, maximum.

This list contains 20-25 food credits or servings; to fit this into reasoable diet must assume that each serving is then 70 -100 calories or so in size, on average.

C. The recommended major departures from the existing standards are:

1. The grain category be cut in half with the processed grains eliminated. No white bread. Now white pasta. No baked potatoes. No doughnuts. We have discussed the glycemic problem, but the Vitamin E shortage is another indicator that the existing approach does not require enough wheat germ and nuts. Wheat germ is a terrific source of vitamin E. It is not added back to degermed grain because of the rancidity problem. So it is being systematically stripped out of a food major source. This needs to be repaired. All the grains in the food pyramid, regardless of how many servings we get should be whole. And the food pyramid needs to make us think first of whole grains when we think of grains. The food pyramid is designed to prod, inspire, motivate people to eat well. It does not exist to promote existing commerce not to entrench unhealthy eating patterns. So let's just knock out the part of the pyramid that is making us fat and unhealthy.
2. Beans and legumes be bunched together into onenew major category instead of hidden as minor constituents of two other categories.
3. The total recommended amount of beans and legumes be increased to 3 servings. This has a huge potential to improve satiety, increase fiber consumption, lower the average glycemic index of carbohydrates consumed, and enhance the fertility of the soil on which we depend for our grains and meats.
4. Nuts be managed as a new category because they are unique sources of two nutrients that are on the short side in the proposed standards; calcium and vitamin E.
5. Introduce the ideas of minimum, nominal, and maximum. So, for example, there is hardly any negative consequence to eating more low-starch vegetables so why not make the specification a minimum. On the other hand, there are negative ramifications to eating 'white foods' so these should have a maximum specification. For most foods, there are target or nominal ranges. If one does not eat enough, there is one negative consequence, if one eats too much it's a different negative consequence. In these cases we use nominal.
6. When foods are illustrated graphically they must not cause people to eat foods that have been proven to cause problems. This suggests that depictions of pasta and bread might be just as harmful as depictions of candy, and cakes. Possibly they are more harmful, even, than depictions of eggs and bacon! If the food pyramid is to make us eat better, it needs to make whole grain and bean dishes look good. It needs to make lettuce and artichoke hearts and tomatoes look good. it needs to remind us of the healthy promise and the culinary possibilities of foods that promote health.

D. Use a food pyramid that does not lead us to eat foods that would inevitably cause us to

occupy the same triangle. To some nutrition experts the gut reaction to this approach will be negative, since this is different from any concepts now in currency. But to a thoughtful person it will make some sense.

Notice that when crucial foods are removed, the pyramid falls over. This is true of Low Starch Vegetables, Beans, Fruits, and the Poultry & Fish or Grain triangles. Sugar, Flour, and Lard can be removed and the whole thing stands. Interestingly, Red Meat can be removed without anything falling apart, but Veggie Oils would cause Sugar Flour and Lard to collapse. Some of these features are accidental to the design, but the analogies to eating practices and their long term influence on health can still be useful.

Every nutritionist I have talked to reacts to the idea of increasing bean consumption with somewhat less enthusiasm than she might to a proposal to increase allowable arsenic levels in drinking water from 10 to 50 ppb. But I have never heard a rational objection put forward to the beans idea. Nor have I seen any thing in any publication that hints at it. Objectively speaking; why should this be a bad idea? What is the nutritional downside? I know from experience that beans only result in flatulence when I have not been consuming enough of them! It's common knowledge among vegetarians.

This pyramid draws a clear distinction between low glycemic index carbohydrates and high glycemic index ones. It moves people sharply away from foods that jolt blood sugar levels. It encourages people to eat lower calorie, nutrient dense foods. It encourages the consumption of foods from the vegetable kingdom in a way that a simple-minded focus on grains cannot. It directly addresses the problems of calcium and vitamin E shortages that exist in the current food pyramid and - so far as I can tell - the new one.

E. Require full disclosure of processed foods. Require that all foods containing or made from grain - except those whose entire composition is fermented - contain no less than 84% of the bran and germ of unprocessed grains. Foods that fail to meet this criteria would be marked with a large, ugly, informative mark that inevitably falls in the consumer's field of veiw when identifying or casually handling the food item. Perhaps a two inch diameter grayish-aqua skull and crossbones would be appropriate. Require the mark on fast food wrappers as well as grocery store fare.

F. Require identification of foods causing 'sugar spikes.' Require special labelling of all foods that, when eaten in natural quantities (We are not talking official serving size, here. We are talking about what people actually do with the food - a thing determined experimentally) leads to the release of enough insulin to lower the blood sugar to below than 98% of its level before eating in 5% or more of the people who consume an amount of their own choosing. The lable would identify the food as one causing an elevated insulin reaction. The lable might be a giant cast iron gray railroad spike with bright red letters 'sugar spike.'

G. Re-design labels on every bit of food. They all assume 'fat is bad; carbs are good.' which simply is not true. They all assume 'everyone gets enough vitamin E' which is not true; the USDA's own food pyramid fails to deliver the goods here. They all assume 'everyone gets enough of every B vitamin' which is not true. They assume everyone gets enough potassium, phosphorous, iodine, chromium, biotin, folacin, and pantothenic acid. This seems like a leap of faith, since many of these nutrients could be stripped out during processing - especially if they are part of a grain. They do several things reasonably well. They give necessary information on carbs, sugars, fats, and proteins. And they indicate calories, A,C, Calcium, and Iron levels. We understand that there is a 'real estate' problem with labels; therefore, some information needs to be left off.

To list nutrients that are not present in significant quantities is a waste of time and real estate. So one idea is simply to disclose only which nutrients are present in levels that

exceed, say, 10% of the RDA for a 100 calorie serving. When it fails to deliver at this level, the food is not really adding much nutritional value in that area.

Finally, if a food cannot list for at least two vital nutrients at the 10 % level or one nutrient at the 25 % level (we will include fiber here,) require that its front lable state "Plays no significant role in maintaining a healthy, high nutrient lifestyle." - or some some such language - in a font of at least 14 point size in a standard face, color and style TBD by USDA. Okay, so we have added three new labels to the front of 'bad foods.' But many of them deserve it.

H. The "Nutritional Spectrum Schema" DISCLOSURE: A more abstract and useful idea involves the invention of two new notions. Suppose there are 20 health-critical nutrients. 20 * 100% means 2000 'health critical units.' Suppose we require a 100 calorie serving of anything to deliver a total of 100 health critical units - it could be 50 or 88 or 125, but in a 2000 calorie diet 100 will make most sense. Foods that deliver fewer HCU's will be judged 'empty foods' because they fail to deliver crucial nutrients in proportion to their calorie level, forcing some other foods to make up the slack.

For example, I am looking at a label for a food that contains 15% of the RDA for vitamin A, 10% for vitamin C in a 100 calorie serving. This totals to 25 'health-critical units.' It has 4% of the required fiber, 2% for Calcium, and 2% for Iron. We do not know how it does in other areas. This food racks up - based on the available information - 33 HCUs, making it nutrient light if this is all it's got. On the other hand, if one is not eating lots of tomatoes or peppers or drinking orange juice each day, it is possible that this food will be called on to provide a significant portion of the Vitamin A & C a person will use. So if one is not getting these nutrients, the food is better than a nutrient dense food that provides more of the nutrients already in ample supply.

This suggests that the HCU idea could be extended and made a little more helpful and intuitive. We need to account for the fact that virtually every food is strong in some area and weak in others. Let's assume we need to get a 'full spectrum' of nutrients. And we make the color spectrum be the analogue of the nutritional spectrum.

Let's assume that nutrients can be organized into groups because of the fact that they occur together in a variety of foods. Then we could have, for example, a Group Orange which is vitamins A and C. There is a vast array of foods that really do deliver large amounts of both these nutrients including most citrus, peppers, and tomatoes. Many leafy greans do as well. If you eat the one food, you get both nutrients together. No need to manage them separately. Perhaps we could have a Group Blue nutrients which contains most B vitamins that occur together in a large number of foods . Not all foods high in B vitamins contain the same ones in large amounts, but the USDA already manages all B vitamins as a group; so this approach is no worse. Maybe we would break B vitamine into two groups. Who knows. We could have a Group Green which is high in Fiber. We could have a Group Indigo which is high in Calcium and Vitamin E. And so on. With some combination of cunning and luck, we may be able to construct a visual analogue of the balanced diet. - an eight or ten color bar chart indicating the levels of each of those nutrient groups in the food. We could place this colored bar chart on every bit of food - even, perhaps, produce.

It may be the case that nutrients that are hardest to attain in full measure get their own color. Calcium comes to mind. Or vitamin E. Those that are naturally plentiful in many foods lump together into a few colors. It seems to me that even a poor, flawed implementation of this idea would be better than what we have now. But this idea can be improved:

There will be a 'standard line' below which the food is contributing less than its caloric

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proportion of the nutrients in that nutrient group, and above which it is contributing an excess. Nutrient rich foods will have relatively large areas above the standard line. Nutrient poor foods will have relatively large white gaps below the standard line. Savvy consumers who are in a hurry will be able to rush around the store looking for 'blue food' or 'red food' to fill nutrition gaps left by foods already in the cart.

An alternative representation would be to have a database of foods and their nutrient contents available online live at the USDA. A shopper with a PDA and a bar code reader could scan each item going into the grocery cart and the PDA would run a piece of software that would query the database and produce a complete representation of its nutritional spectrum. It could even run totals so that one could see how nutritionally balanced the whole supermarket basket is in real time. Finally, it could generate a short list of items that would plug any nutritional holes! The technology to do this all exists.

Benefits: It is fast. It is objective. It is clear. It is intuitive. It is compact. It is helpful. It is more complete than the current system since it covers more crucial nutrients.

Please, carefully consider these ideas. They represent hundreds of hours of informal research and much personal experience. Acquaint yourself with the July 7th 2002 NYT article. It's a good survey article and poses many crucial questions. It offers a number of startling new outlooks on the whole carbohydrate vs. fat question. In fact, as I reread it I am startled at how - judged in light of the points in the article - fundamentally misguided the whole 'eat more pasta' idea is.

As someone who has lived primarily on rice and beans for fwo years, I have seen first-hand what low-fat eating is and how it can work. I know that there is actually a working model of low-fat eating that functions well. It only works if 1) you eat beans every day 2) you eliminate all processed foods especially sugar, sweets, caffiene, & white pasta and 3) you walk 40 minutes per day. Fail to do any of these and the game is over: you get hungry, you start eating like crazy, and you blow up faster than a ton of 'nitro' in an electrical storm. Really! I've done the experiment.

If the whole low-fat thing is to work, people must find a way to stabilize blood sugar. And the food pyramid or whatever visual model succeeds it must clearly communicate how to do this. There are two general approaches available to get blood sugar stabilized; eat smaller amounts more frequently, and/ or eat foods that take longer to digest. The best solution would probabably combine both.

As powerful as the USDA might be, it seems unreasonable to expect that it will be successful in forcing all three hundred million people in the USA to take a midmorning break for 'tofu and tomatoes' one again at mid-afternoon - no matter how compelling might be the scientific evidence to do so. And right now I bet there is no study to suggest this really is a good idea. So realistically, this approach is a non-starter. That means you have to propose an approach that stabilizes blood sugar by lowering glycemic index and/or by causing us to eat more fat. We can either eat more beans. Or we can eat more meat. Or both. That's it. End of story.

We understand that USDA does not make law. Perhaps the labelling issues are beyond your perview. But if you give such ideas strong support , it seems reasonable to expect that eventually they will become law.

You make the call. Please do build a new model that fixes this monstrous problem. And do what you can to help us all live healthier, more productive lives. If the world gets too far ahead, you will lose all credibility and people will just laugh at you. I'd like to believe that won't happen.

S.R. Brubaker
Somerset, New Jersey

1OF2 JUL 26 2004 (60)

Dear Sirs, Rayburn

I am so happy to hear you are considering revamping the food guide pyramid, you just can't imagine how much better I feel 60 lbs lighter & blood work 100% better! My Dr. said I don't know what your doing but keep doing it.

Well, simply I am eating the healthy Atkins nutritional way of life, no, I'm not dieting, I'm changing my whole way of thinking & eating.

Because of Dr. Atkins I'm eating healthier than ever before in my life, & no I don't eat just red meat & cheese.

I have lots of veggies & certain fruit & I have added fish to my dietary plan, absolutely no sugar, refined, bleached or processed, flour, rice, pasta, only whole grain or soy based. I feel wonderful, am off most of my medications, my LDL & HDL are wonderful my triglycerides have plummeted, & I'm off BP medicine.

I beg you, look around at the obesity, American's are dying, food has become our God, teach America to bring her appetite back under control, all the junk we eat just makes the body hungrier. On Atkins I eat less & am satisfied longer, oh & Dr. Atkins demands physical activity

was 189 lbs

I'm 5'4" 128 lbs

Sharon Rayburn

also my blood shows my nutrition level perfect all my vitamin, calcium, iron, potassium etc... are normal, I had a kidney Transplant 1 yr ago, & can't eat alot of protein, so I follow up on low carb nutrient dense vegies.

1 OF 1 Rodriguez Univ. of No. Florid

Food Guide Pyramid Reassessment Team
USDA Center for Nutrition Policy and Promotion
3101 Park Center Drive, Room 1034
Alexandria, VA 22302

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JUL 26 7PM

Dear Team Members:

Upon review of many Pyramids, my biggest concern is that they **should have WATER at the BASE**. It seems like a serious omission that needs to be considered and most certainly not left out of a future guide.

Judith C. Rodriguez, Chair
University of North Florida
College of Health, Dept. Public Health

Jacksonville, FL

1 OF 4

Weintraub JUL 26 2004

(62)

David Weintraub

Edison NJ

Food Guide Pyramid Reassessment Team
USDA Center for Nutrition Policy and Promotion
3101 Park Center Drive, Room 1034
Alexandria VA 22302

July 20, 2004

Thank you for taking the time to allow us consumers to comment on the food pyramid. I've been interested in the food pyramid and with nutrition since I was diagnosed with Diabetes five years ago. I've learned a lot about nutrition over the last five years, and have listened to the debates about the USDA food pyramid. I personally found the USDA nutrition guide lines very useful, but like many people , I found the pyramid itself a bit confusing.

The structure of the pyramid makes the USDA guideline recommendations on fruit and produce lost in the structure. All public debate seems to take place about the top of the pyramid (fats and sugars) and the bottom (carbohydrates) while the recommended three to five servings of vegetables gets lost in the noise.

The USDA pyramid graphic itself contradicts your own guidelines. Your own guide lines from 1992 recommend 3 to 5 servings of leafy vegetables and other non-starchy vegetables. However, the official USDA food pyramid graphic contains a picture of a potato in the produce area. According to the American Dietetic Association and the American Diabetic Association, potatoes should be in the same group as grains, cereals, and other starches.

Serving sizes also seem askew. The serving sizes used in the food pyramid differ from the Nutritional Facts Panel guidelines set by both you and the FDA (although they are actually in line with what most nutritionists use). Most people might think of a plate of Denny's pancakes as "one serving" of the "Breads and Cereals" group and not the 6 to 10 servings it actually represents.

Here are a few additional comments that I would like to add:

- On your nutrition website, you also mention the need for regular exercise. This exercise recommendation should be added to the base of the new food *pyramid* (or whatever shape the new graphic takes). The latest guidelines now call for daily exercise for at least 30 minutes to an hour per day. Dr. Willett did this in his Healthy Eating Pyramid and it really helps stress the importance of daily exercise.

  I've always told people that enough physical exercise can absolve almost any dietary sin committed. Exercise has been show to be a prime factor in lowering blood pressure and cholesterol, helping diabetics keep their blood glucose levels

under control, and in battling obesity. It really should be included in any diet recommendation.

- There needs to be a separation between "low fat" protein sources and "high fat" protein sources. Low fat sources like skinless chicken, fish, and legumes should be given preference to high fat sources.

  Maybe you can do what the Atkin's Pyramid does and show how you can increase certain dietary amounts with exercise. Maybe the idea that you could earn right to chow down on a nice juicy sirloin strip by running four or five miles per day will encourage people to exercise. Then maybe again, chicken isn't all that bad.

- What happened to fish in the current pyramid? Meat, chicken, and dairy are all mentioned, but not fish. And, something needs to be done with legumes which are also an excellent low fat protein source. I know legumes are difficult to fit in, but considering that over 10 million people in the United States consider themselves vegetarians, a food pyramid that only includes meat protein sources will leave a substantial proportion of the United States population unable to follow your guidelines.

- Milk is both an important source of protein and calcium, and most nutritionists still recommend drinking milk for these two nutrients. However, there are people in this country who are lactose intolerant, plus there are people for a variety of reasons who do not drink milk.

  Dairy products can suffer another flaw: They can be high in saturated fats. Any guidelines must stress that dairy should come mainly from low-fat sources, and that one must be careful about added sugar and salt found in many dairy products. For example, many people I know eat yoghurt or yoghurt like snacks as a healthy snack. Unfortunately, most of these yoghurts are not only high in fat, but are loaded with sugar. Breyers Yoghurt contains over 210 calories per serving with most of those calories coming from the added HFCS.

  Any new recommendation for dairy must stress not only low fat/low salt dairy products, but also include guidelines for people who prefer not to eat dairy products. Such as eating dark green leafy plants for calcium.

- Any information needs to separate out starchy vegetables from non-starchy vegetables. Starchy vegetables should be included in the grains category. After all, the North American Indian civilizations had no grains (except corn), and depended upon tubers to replace much of the grain that rest of the world used for the base of their diet.

- You must also separate out starchy fruits from low-starch fruits. Bananas to the American Dietetic Association are considered a starch and not a fruit. Considering that bananas are one of America's favorite "fruit", this could cause problems in getting people to eat more fruits and other produce.

- Clarify what is meant by a "serving". Most Americans think of a plate for of spaghetti smothered in tomato sauce as a serving of the "bread/grains/pasta" group, or they feel that a 16 ounce sirloin is a serving from the "meat" group.

Although your dietary guidelines carefully explain what a serving is, the food pyramid (that most people use) doesn't. This is especially confusing considering that the Nutritional Facts Panel on most foods uses a completely different guideline. Where the Nutrition Facts Panel lists a bowl of cereal as a serving, it may count as much as 2 servings according to your dietary recommendations.

- Research has always shown that fats make up an important nutrient in our diets, and that there is a major difference between monosaturated/unsaturated fats vs. saturated fats vs. transfats. The new food pyramid should also reflect this division.
- I understand that the concept of "glycemic load" is a bit much for most consumers to understand, but there should be an emphasis on grains and starchy vegetables with a lower glycemic load. For example, barley as a side dish instead of rice or noodles. Whole grains vs. processed grains, eating potatoes less often instead of on a daily basis.
- Something has to be done to emphasize more non-starchy vegetables and fruits (especially vegetables). In the current USDA food pyramid, they get stuck in the middle between the "base" of starch and the "no-no' of fats and sugars. The amount of fruits and vegetables recommended is pretty good in the current USDA food pyramid, but Americans aren't coming close to consuming the amounts of fruits and vegetables in the current USDA food pyramid. I've always joked with people that the food pyramid places vegetables at eye-level, but the importance of produce really gets lost in the structure.

I like the idea of a new food pyramid which would help improve upon the message that the current USDA food pyramid tried to advocate. Unlike many nutritionists, I never thought of the USDA food pyramid as dangerous. Instead, I viewed the food pyramid as being misunderstood. The food pyramid was much better concept than the old "four food groups". The food pyramid separated vegetables and fruits and gave a good basis of cutting back on both added sugars and fats.

Many problems with the food pyramid happened when theory collided with marketing reality. Food manufacturers created "low fat" products (since cutting back on fats was emphasized in the food pyramid) by adding sugars (which is a food pyramid no-no, but never seemed to get as much emphasis as low-fat). Vegetables which should have been given a lot of prominence in the new guide (3 to 5 servings per day!) somehow got lost in the basic structure.

There are some valid criticisms with the current structure: there was no emphasis on whole grains vs. processed grains or good fats vs. bad fats, but I've always believed that the original USDA food pyramid was an excellent start. When I was diagnosed with diabetes and was forced to watch my weight and diet, I found the guidelines in the current USDA food pyramid helpful in getting me on my way to a healthier life. Using the USDA food pyramid, I was able to construct a diet that allowed me to lose weight and get my blood glucose levels under control.

What must be done is to lay out a healthy living proposal (including exercise and diet) that will be harder for marketeers to manipulate. I know that is difficult. If Coca Cola and Pepsi Cola can come out with versions of their soda that they claim will fit into a low-

carb diet plan, then trying to keep manufacturers trying to represent junk food as healthy food choices will be a real challenge.

Even most "health food" stores are full of whole wheat brownies (packed with monosaturated fats!), chips (made with sea salt and free range potatoes!), candy bars (made with spelt and sweetened with honey from third world bees organized in a self-sustaining, eco-friendly cooperative!), and some very strange dietary supplements (are you getting enough chrome in your diet?), but very little fresh produce.

Laying out new dietary guidelines that are easy to follow and hard to misrepresent will take a lot of time and effort. There is always the political minefields that must be run, complaints and criticisms from fellow nutritionists that must be taken into account, and the lack of time and resources. I wish you the best of luck and hope that the new dietary (and exercise) guidelines you are developing will help Americans live longer and healthier.

1 OF 1 Jimenez/VA Tech

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Virginia Cooperative Extension
Knowledge for the CommonWealth

VIRGINIA STATE UNIVERSITY

Caroline County Office

Bowling Green, Virginia
Phone: ( ) Fax: ____

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JUL 26 2004

July 23, 2004

Food Guide Pyramid Reassessment Team
USDA Center for Nutrition Policy & Promotion
3101 Park Center Drive, Room 1034
Alexandria Va 22302

Dear Team:

I work as a nutrition educator, with our main audience low-income clients. The Food Guide Pyramid is the base of our classes. With all the new "diets" out there we see a need for revision. Having a colorful and easy to read graphic to use as a teaching tool is paramount. I hope you will also put together booklets that include how to understand the new pyramid, along with training for educators. I enjoy teaching nutrition and our Smart Choices Nutrition Education Program team with Virginia Tech is the best. They provide a lot of great trainings. I appreciate the USDA's support of our program. Good luck with the revisions.

Sincerely,
Beth Jimenez
Program Assistant
Smart Choices Nutrition Education Program

1 OF 1 Belz / Kitchen Connection

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JUL 26 2010

John

Several years ago a friend of mine suggested a system teaching nutrition to children that consisted of the 3G's (Grow, Go, and Glo foods) It was a rather simplistic system to teach very young children proper nutrition (she had used this system years ago when teaching nutrition in Bangladesh) I created some graphics and taught a 6-week Sunday school class to children aged 5-9.

I found it a very effective method to give children a basic guideline for proper eating. Dividing the plate into 3rds, I explained that approximately 1/3 of their daily intake should come from each of the following:

Grow - protein rich good that help support muscle development and growth. This included dairy products, meats, fish, as well as beans and legumes. Whether the child was a vegetarian or meat eater, they could find a way to place 1/3 of their favorite foods in this category.

Go - complex carbohydrates found in whole grains. Pasta, bread, rice, cereals in addition to potatoes. These foods provide the necessary energy needed for the day.

Glo - this included all the 'colorful' fruits and vegetables that build a healthy immune system to fight off disease.

We also discussed eating foods that came as close to nature as possible. The less processed the more nutrient a food would have. Added fats and sugars were not even a part of this plate. They were mentioned as a side note to be eaten in very limited quantities for a special treat.

The children all seemed to grasp this concept easily and were quite enthusiastic to share their newfound knowledge of nutrition with their parents. By dividing the plate into thirds, they could eaaily see approximately how much they should eat from each group - it was easy to leave out the confusing 6 servings of this and 3-5 servings of that.

I would love to see this method taught nationwide to school children to increase their knowledge of proper nutrition and give them basis for understanding how and why to eat properly for life-long health.

Chef DeAnna

DeAnna Belz, personal chef
Kitchen Connection

Bloomington, IL

1 of 1 Kexel-Calabresa

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JUL 26 2004

7-21-04

Food Guide Pyramid Reassessment Team
USDA Center for Nutrition Policy and Promotion
3101 Park Center Drive, Room 1034
Alexandria, VA 22302

Dear Representative:

I read an article in the Cheese Reporter regarding your taking comments about the Food Pyramid. I indeed have several comments.

First of all, either turn it upside down or change the shape to a pie. The psychological effect of looking at the current pyramid takes us to the pinnacle, the apex, and the ultimate – dessert!! Bad mental imaging!

By the way, let's get soda out of schools! What insanity! White or chocolate milk were the options when I went to school. Pushing empty calories or poisonous artificial sweeteners and caffeine on the kids – just by having it there in school (implying sanction) is shameful! Are the proceeds more important than the health of our youth??

For whichever final diagram results, increase the number of green vegetable servings. (I actually can get little kids to eat broccoli, raw beans and pea pods if I serve a little Ranch dressing in a little container on the side for dipping!) Increase the number of lean protein servings – protein from meat is so very essential for the human body. Recommend all kinds of nuts! They are incredibly rich in plant protein and various antioxidants, etc. Make sure people understand that nuts must be consumed with dairy to create complete proteins in our bodies.

Leave out the pictures of crackers and white bread (totally void!) in the carb section, along with any other foods in boxes. Have you read the labels? Boxed foods are loaded with partially hydrogenated vegetable oils! This foreign chemical has been poisoning our bodies since the invention of margarine. The human body knows exactly what to do with small quantities of natural animal and plant fat.

Emphasize the value of exercise somehow. It's not only what we take into our bodies; it's what we ***do*** with our bodies!

Good luck!

Nancy Kexel-Calabresa

Nancy Kexel-Calabresa

Fish Creek, WI

1 OF 1 Dreksler

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JUL 26 2004

Christine Dreksler
[redacted]
Plainwell, MI [redacted]
7/21/04

Food Guide Pyramid Reassessment Team
USDA Center for Nutrition Policy and Promotion
3101 Park Center Drive, Room 1034
Alexandria, VA 22302

To Whom It May Concern,

My name is Christine Dreksler and I'm writing to share my thoughts on the USDA Food Guide Pyramid.

Today's guidelines are very outdated (if they ever were correct) Any one who follows a diet full of carbs and sugar (low fat foods have SUGAR in it!) is or will be unhealthy. Old people are told not to eat meat. They are many times weak and cranky. (Plus their doctors give them TOO many pills!) I encourage you to look into a low carb (see Dr. Atkins guidelines) eating lifestyle and change the way the medical profession tells people to eat!

Please take these comments into consideration. Also, please look carefully into Splenda to make sure it is not harmful.

Sincerely,

Christine Dreksler

1 OF 1 Nelson

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JUL 26 2004

July 22, 2004

Food Guide Pyramid Reassessment Team,
USDA Center for Nutrition Policy and Promotion,
3101 Park Center Drive, Room 1034,
Alexandria, VA 22302.

To Whom it May Concern:

I am a Family and Consumer Science Educator and a Registered Dietitian. I think the Food Guide Pyramid could be more useful to consumers with a few modifications and clarifications. Following are some suggestions for your consideration.

1) range of number of servings. Below the pyramid, have a continuum line showing pictorial examples for the low end of the range (inactive, young, female, older, smaller stature) and the high end of the range (active, teenager, pregnant, breastfeeding, large build) and a question, where do you fall on this continuum?

2) frequency with which foods in a particular group should be eaten. Within a group like the grain group for example, you could have green (frequent) foods like whole grain bread, yellow (sometimes) like Italian bread and red (occasionally) foods like donuts. Somehow make a visual like color tones or a traffic light icon.

3)serving sizes. Next to the pyramid, show two plates of food with the same meal, one with huge serving sizes and the other with recommended portions sizes. Note that a deck of cards is a good visual for estimating a serving size for example. Have a line like "smaller serving sizes mean smaller waistlines"

I would also stress water as a beverage for hydration and zero calories.

I would place this all on one visual in as simple and uncluttered a way as possible.

Sincerely,

Diane Nelson. RD. MPH

Mamaroneck, NY

see the article called "Breakfast Cafe" in Today's Dietitian, June 2004

1 OF 2

Major / Lunchbyte Systems Penfield, NY

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Food Guide Pyramid Reassessment Team
USDA Center for Nutrition Policy and Promotion
3101 Park Center Drive
Room 1034
Alexandria, VA 22302

JUL 26 2004

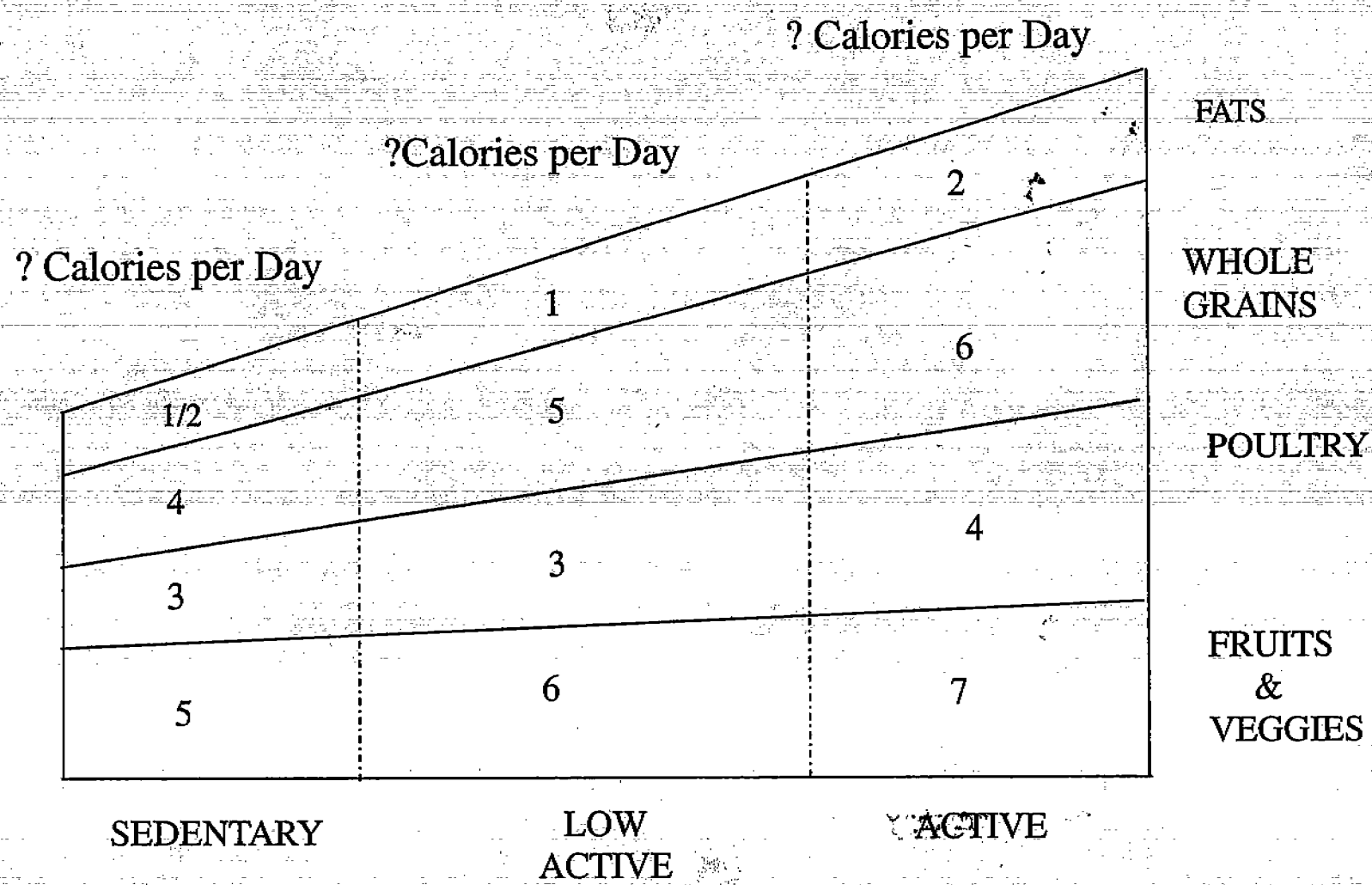
To Whom It May Concern:

I have enclosed my submission for the update to the Food Guide Pyramid. The numbers that I have entered into the chart are not representative of the guidelines that have been set up by the USDA. They are just entered to show what I think the chart could look like. Thank you very much for your consideration.

Thank you,

Craig Major

Craig Major
National Trainer
Lunchbyte Systems Inc.



1 OF 1 Hoppenjans

JUL 26 2004

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J. Paul Hoppenjans

Purcellville, VA
July 23, 2004

Food Guide Pyramid Reassessment Team
USDA Center for Nutrition Policy and Promotion
3101 Park Center Drive, Room 1034
Alexandria, VA 22302

To Whom It May Concern,

My name is Paul Hoppenjans and I'm writing to share my thoughts on the USDA Food Guide Pyramid. My comments are based on my experience controlling carbohydrates, which have helped me to regain control of my health and my weight.

I had been steadily gaining weight from the time I was in college until very recently, at age 40. I had tried to limit caloric intake and increase exercise over the years, but I never was able to lose more than a few pounds. Additionally, I gained any lost weight back quickly, and over the years I drifted from about 175 pounds on my six foot frame to about 235 pounds. I was starting to experience a number of problems that come with being overweight, such as joint pain, headaches, and snoring.

In April 2004, I made a decision to try the Atkins Nutritional Approach after reading Dr. Robert Atkins' book *New Diet Revolution*. Although I am not a nutritionist, much of what the book said made sense to me. I have noticed that despite years of government spending to get Americans to follow the "food pyramid" plan that was drilled into us, in many cases since childhood, we were getting to be an obese nation. Although I found it reasonable to attribute some of this due to increasing sedentary lifestyles and fast food, it seemed to me that something was missing. The Atkins focus on nutrient-poor carbohydrates, especially processed carbohydrates as a cause of obesity and diabetes-like symptoms made much sense to a layman such as me. Combined with personally knowing many people who have successfully improved their lives with a low carbohydrate lifestyle, I made the decision to give it a try.

Four months later, it has been one of the best decisions I have ever made. I have lost almost 40 pounds and feel tremendously better. My lipid panel has vastly improved. I have lost weight without feeling deprived at all. I am now fully in control of my food intake and experience essentially no cravings for sugary treats and starchy empty-carbohydrate foods such as French fries. My various aches and pains have gone away and my snoring has all but vanished. In short, I have never felt better or healthier. Having lost the weight, I now have the energy to exercise regularly.

My comments are as follows: as you look to revise the Federal government's nutritional guidelines, I strongly recommend that you consider the experience of me as well as literally millions of other people who have improved their lives with a controlled carbohydrate approach. It is critical that, even if you include many carbohydrate-rich foods in the recommended pyramid, that those foods focus on nutrient-rich carbohydrates and those that give you a better "bang for the buck" in terms of what sort of nutrition you get for taking in those carbohydrates.

Please take these comments into consideration as you re-evaluate and redesign the Food Guide Pyramid.

Sincerely,

J. Paul Hoppenjans

1 OF 1 Rucki JUL 26 2004

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July 22 2004

Food Guide Pyramid Reassessment
USDA Center for Nutrition Policy
3101 Park Center Drive, Rm 1034
Alexandria, VA 22302

Please simplify the food guide diagram. I teach my grandchildren that we should eat square meals:

DAIRY	FRUIT AND VEGETABLE
PROTEIN	GRAIN

Snacks between meals are a choice of two from the four food groups.

Thank you.

Doris Rucki

[redacted]
Omaha NE